HISTORY

of the

INSTITUTE OF POLAR STUDIES

1960-1969

by
G. McKENZIE
and
J. SPLETTSTOESSER

The Ohio State University
INSTITUTE OF POLAR STUDIES
125 South Oval Drive
Columbus, Ohio 43210
U. S. A.

June 1969

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Note: Parts of this history have appeared in the first two issues of the Institute of Polar Studies Newsletter.

FOUNDING AND EARLY DEVELOPMENT

The Institute of Polar Studies was formally organized on February 12, 1960, by a unanimous vote on a recommendation of the Faculty Council during the 945th meeting of The Ohio State University Board of Trustees. This action followed a recommendation made by the Council on February 9, 1960. Earlier a proposed constitution for the Institute was drafted by an ad hoc committee acting under authority of the Council on Research, which in 1959 had approved the Institute principle. The committee included eleven faculty members from eight departments and three colleges. Dr. Richard P. Goldthwait, who served as Director of the Institute from the time of its formation until June 1965, was one of the major forces behind the move to form the Institute of Polar Studies.

The reason for formation of the Institute stemmed from the increased interest in polar phenomena brought about by the International Geophysical Year (IGY) (1957-1958). Prior to that time groups at The Ohio State University had done contract research for the U. S. Army in Greenland. Following IGY, a data reduction center was set up at The Ohio State University; it was housed in Room 107, Mendenhall Laboratory.

During the International Geophysical Cooperation (IGC) (1959) the interest in scientific research in polar phenomena continued. There were then many scholars who were able and keenly interested in this area of research, which was growing very rapidly in both significance and opportunity. With this impetus the need for a research organization devoted to polar investigations was apparent.

Purpose and Structure

The purposes of the Institute as set up in the constitution* are:

1) To plan, encourage, support, and direct significant scientific research in polar phenomena.

2) To bring together or develop inter-related polar investigations and teams of investigators.

3) To seek and facilitate the training of research workers devoted to polar studies.

4) To make available to scientists and the public the fruits of significant polar studies.

Polar studies are considered to be the investigation of any natural or cultural phenomenon peculiar to the environment where ground is permanently frozen or where glaciers and permanent snows are nearby. In general, these are the areas where mean monthly temperature does not exceed 10°C for the warmest month.

The Institute is governed and operated under the Vice President for Research, with the sanction of the President and the Board of Trustees. It is conducted by a Director, an administrative Board of five persons, and an interdepartmental membership. The Director is appointed for four years by the President and the Board of Trustees upon a recommendation of the Vice President for Research, following a nomination of the Administrative Board. The Administrative Board consists of five voting and two non-voting members. The voting members include two of the university faculty elected by the membership of the Institute, two appointed by the Council on Research, and the Dean of the Graduate School. The non-voting members include the Director of the Institute and the Vice President for Research.

Membership in the Institute includes any member of the Ohio State

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* Constitution in full in Appendix A.

teaching faculty who supervises, advises regularly on, consults for, or is a principal investigator of, any polar research project, and any full-time principal investigator who possesses the Master's degree or equivalent. Membership may also include two representatives from any department contemplating participating in a polar program.

The Institute is administered by a Director, an Assistant Director, and an Assistant to the Director. Service staff has varied over the years but generally includes a secretary, technicians, and a librarian.

The Institute is not a degree-granting department. Students studying in polar studies are registered in departments on campus. The scientific disciplines included in the membership of the Institute are: agronomy, anthropology, bedrock geology, botany, city planning, civil engineering, climatology, ecology, geochemistry, geography, geophysics, glacial geology, glaciology, ice physics, meteorology, microbiology, paleobotany, photogrammetry, and zoology. Other disciplines may be added if the need arises.

The First Two Years

At the time of founding, support for the Institute of Polar Studies was assured through a grant from the civilian-military portion of the Mershon Fund covering a period of seven years. This grant was originally for $105,000 and was later increased by $25,000. Research projects underway at the time of formation of the Institute amounted to approximately sixteen and were valued at more than $200,000. The Institute offices, utilities, equipment, and maintenance were supplied by The Ohio State University; teaching salaries came from the department budgets and research salaries came from the Mershon Fund, Grants-in-Aid and research grants.

The facilities of the Institute in Mendenhall Laboratory at the time of formation included a central office (Room 103) with polar reprint and

news library, map collection and data files, an office (Room 102) for data reduction and analysis, a cold room, equipment room and small shop (Room 2). Within a year another data reduction office (Room 104) had been added.

In the first few years of the Institute the main problem was that of obtaining half-time department positions or other support for senior staff attracted to the Institute. This problem continued for years and is still not completely solved. Lack of specialists for certain available projects or for projects that were highly desirable to undertake, was another problem. Both of these problems are common to many institutes. Funds for research were mainly from the National Science Foundation and a diversification of sources was sought. The areas of study at the time of formation of the Institute were glaciology, glacial geology, bedrock geology, climatology, and photogrammetry; researchers from other disciplines were actively sought.

The early publications of the Institute, consisting mainly of IGY and IGC data reduced at Ohio State University, appeared as reports of The Ohio State University Research Foundation and as papers in standard scientific journals. By 1961 plans had been made to start the Institute's own report series and the first publication appeared early in 1962. The Institute began a weekly colloquium for members and interested guests at which the preliminary results of research were aired. Quarterly Film Shows, featuring films* on polar regions, began in 1961. These are run to inform the public of the research being carried out in polar areas. Soon the Institute began to attract scientists** from around the world to present formal lectures, and to accept teaching positions in cooperating departments. Some of these

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* A list of movies shown in given in Appendix B.

** A list of faculty members attracted to Ohio State University through Mershon Funds awarded to the Institute is given in Appendix C.

new appointments resulted in the initiation of new courses in these departments such as a course in glaciology taught by Dr. C. Bull in the Department of Geology.

The Institute began its first and only course, a Seminar in Polar and Alpine Studies, in 1962. This was an annual interdepartmental seminar conducted with the cooperating departments interested in polar studies. The seminar provided a common meeting ground for many disciplines and an opportunity for students to become familiar with fields auxiliary to their specialties. Faculty members and senior research personnel showed a keen interest in the seminar and their participation provided graduate students and senior researchers with the latest scientific results in this new and rapidly expanding area of research.

Dissemination of knowledge of polar phenomena by the Institute of Polar Studies was not restricted to members of The Ohio State University. In addition to the quarterly film shows that were open to the public, the Institute was able to inform the public of advances in polar research through the newspapers, television and radio. In the first two years several of the members of the Institute appeared on radio and television shows; press coverage, particularly by the OSU News and Information Service, of Institute activities, helped to inform the public of work in polar regions. Soon after its formation, the Institute hosted the annual meeting of the Glaciology Panel of the Committee on Polar Research which is part of the National Academy of Sciences.

In 1961 the first Fellowship of the Institute was awarded. This consisted of a cash award of $2500 for the academic year. Both the size and the number of the fellowships were later increased.

During the first two years the staff of the Institute varied between 30 and 35 persons. By far the main area of research at this time was in

the field of glaciology; glacial geology and bedrock geology were next in number of research projects. Several other disciplines were represented and attempts continued to be made to diversify the activities of the Institute. Most of the field work was being done in Antarctica. This reflected the outgrowth of the Institute from the work that had been done in Antarctica during IGY and IGC. Arctic areas were not being neglected, however, and research by members of the Institute at this time was being carried out in Alaska, Greenland, and Spitsbergen.

After two years of operation the Institute had been active in all of its stated purposes, and The Ohio State University had become a recognized center of polar research. Scientists from around the world had worked, lectured, or visited at the Institute; over 35 reports or contributions to scientific journals had been published. Training of research workers devoted to polar studies was an important facet of the Institute and about one-third of the research associates were Ph.D. candidates at The Ohio State University.

THE MATURE YEARS

During the next five years, May 1962 to May 1967, there was little change in the organization, policies, and facilities of the Institute. There were, however, increases in number of research personnel, research support, and number of publications.

Personnel engaged in research numbered 41, including both full- and part-time researchers; the administrative staff consisted of a Director, a part-time Assistant Director, and a part-time Assistant to the Director. There was also a full-time secretary; part-time help included a technician, a draftsman, and a librarian.

Research support for the Institute reached a cumulative total of $2,121,838 for ninety (90) projects, of which almost 90 percent were funded by the National Science Foundation. Overhead on these projects amounted to $324,312. On March 31, 1967, almost a million dollars in projects were active. This was a considerable increase in support for active projects over the early years of the Institute and was particularly significant because the number of institutions applying to the National Science Foundation for Antarctic support had increased by about 50 percent, while the National Science Foundation budget remained the same. Despite the large amount of money obtained by grants for research by the Institute and overhead for the University, the Institute still had a major financial problem. This was the support of senior research personnel. Since cooperating departments could offer professorial positions to one man only in a particular speciality, senior scientists that could and did attract good graduate students were without a worthwhile continuing position. This problem increased the difficulty of attracting and holding good scientists.

Research was still concentrated in Antarctica and amounted to 60 - 70 percent of the total active projects in May 1967, the level at which it had remained for the previous five years. Except for activities in Patagonia the remainder of the projects were in the northern hemisphere in localities similar to those during the early years of the Institute.

At this time the glaciological projects amounted to only 30 percent of the total Institute projects, in part a reflection of attempts at diversification of the Institute disciplines. Bedrock and isotope geology constituted another 30 percent of the projects; botany, glacial geology, meteorology, Eskimo archeology, and geophysics were the categories of other active projects at this time.

The Institute continued to publish reports and contribute papers to the standard scientific journals. By May 1967 the list of reports, including those reports published by The Ohio State University Research Foundation, had totaled 44. The contribution series was up to number 105, and miscellaneous reports and papers, including some abstracts, totaled 37.

The number of graduate students associated with the Institute in May 1967 had risen to 21, of which 15 were Ph.D. candidates. Fourteen Doctorate and nine Master's degrees had been awarded by cooperating departments to students whose research had been wholly or partly supported by the Institute. Seven of these degrees (2 Ph.D. and 5 M.A. and M.S.) were awarded by other universities.

The 1966-1967 academic year was the last time that the Institute Fellowship for study at The Ohio State University was awarded. Since its inception it had been awarded eleven times and had helped to attract excellent students to the Institute. The Institute Summer Fellowship, to attend a summer field camp in Kebnekajse, was last awarded in 1965. It provided opportunities for

three students to obtain polar experience and to meet with researchers in a similar field on an international scale. The recipients of these fellowships are listed in Appendix D.

Scientific and popular lectures continued as an activity of the Institute. Many of these lectures have been given at colleges and universities in Ohio and neighboring states in an effort to attract new students to work at the Institute.

CURRENT STATUS AND FUTURE PLANS

As of June 1969 there were 53 people associated with the Institute including three administrators and five service personnel. A list of these people and their positions is given in Appendix E.

The Institute is still housed in Mendenhall Laboratory; besides the rooms mentioned earlier, the Institute now has an office in Room 105, occupied by four researchers. Two more rooms in the basement of Mendenhall Laboratory have been turned over to the Institute. Adequate office space continues to be one of the problems of the Institute.

The list of publications of the Institute continues to grow. The latest list, which accompanies this report, contains 51 Institute, IGY, and IGC Reports, 143 Contributions, and 56 Miscellaneous publications.

The number of students that have received advanced degrees while supported in whole or in part by the Institute is now 36. Of these, 22 were doctorate students and 14 were master's students. A list of these students is given in Appendix F.

Research Support

The total amount of monies received by the Institute for research projects (108) as of January 1969 was $2,707,861 with overhead for the University of $402,155. See Appendix G for total list of projects and their value. There were 39 projects active in January 1969. They originally totaled $1,159,447, and as of October 31, 1968, there was $348,049 remaining. For comparison, the following table gives the amounts remaining in all the research projects active at the given date:

Oct. 31, 1961	$ 174,551	19 projects
Sept. 30, 1962	$ 229,861	25 projects
Oct. 31, 1963	$ 153,294	22 projects
Oct. 31, 1964	$ 156,781	15 projects
Sept. 30, 1965	$ 220,674	18 projects
Oct. 31, 1966	$ 348,824	23 projects
Oct. 31, 1967	$ 468,258	38 projects

The above figures serve to illustrate the growth of the Institute, particularly in the last four years.

The Institute research program was curtailed for Fiscal Year 1968-69 because of a ceiling on the University's expenditures on grants received from the National Science Foundation. The total available NSF funds for Fiscal Year 1968-69 amounted to $455,876; however, with the ceiling the funds were cut by 31.8% to $310,774.

Fortunately the Institute anticipated some reduction in expenditures for this fiscal year, and substituted comparatively inexpensive data reduction programs in several disciplines. Consequently, in the Antarctic this year there were only six field parties, compared with nine the previous year. A major geological investigation in the Central Transantarctic

Mountains is planned for the 1969-70 Antarctic field season.

There have been, however, some serious effects of the expenditure ceiling on the growth and development of the Institute. Usually first-year graduates, who become graduate research associates, are employed as field assistants. With the reduction in field parties a subsequent reduction in the number of graduate students has ensued. Another side effect of the reduction in expenditures is that money from grants-in-aid and state-appropriated research funds is being used this year to pay part of the salaries of men already here. Such money is usually used to attract new men to the Institute.

The expenditure ceiling has not been disastrous, but if it were imposed in the next two years, the situation of the Institute would be serious, as there would be few new students to replace those graduating.

University Support

The problem of maintaining senior research personnel, in the event of rejection of their research proposals, has been alleviated by the addition of the salary of a second senior research man to the Institute permanent budget. This salary and that of the Assistant to the Director are now paid through the Office of Research. The Mershon Fund provided this buffer for salaries of senior research personnel from 1961 to 1967.

Interdepartmental Seminar on Polar and Alpine Studies

The only course given by the Institute, the Polar and Alpine Seminar, featured an expanded program during the 1969 Spring Quarter with nine visiting lecturers. They participated in the seminars, and also presented public lectures while at the Institute. Funds for travel and honoraria for the lecturers were provided by the Graduate School. The visitors, with their public lecture topics, are listed as follows:

Dr. R. L. Nichols Tufts University	"Geologizing in the Shadow of the South Pole"
Dr. J. Gordon Ogden Ohio Wesleyan Univ.	"The Use and Abuse of Radiocarbon Dating"
Dr. M. J. Dunbar McGill University	"How Climate Affects Polar Plants and Animals"
Dr. W. C. Hanson Battelle Northwest	"Radioactivity in Arctic Ecosystems"
Dr. W. O. Pruitt Memorial Univ. of Newfoundland	"Ecology of Arctic Animals"
Dr. N. A. Ostenso Office of Naval Research	"Structure of the Arctic Ocean Basin"
Dr. W. E. Taylor National Museum of Canada	"Canadian Eskimo Prehistory"
Dr. W.J.L. Sladen Johns Hopkins University	"Ornithological Research in Antarctica"
Dr. F. Loewe Univ. of Melbourne	"The Scientific Exploration of Greenland"

University Centennial -- Institute Decennial

Tentative plans for celebration of the University Centennial and the Institute Decennial in 1970 include public lectures by Institute personnel and by visiting lecturers, a symposium, special publications, and production of a movie on Institute activities. These events may be centered around the theme of future research and exploration in polar areas. In connection with the major geologic investigation of the Transantarctic Mountains during 1969-70, plans are being formulated to name two mountain peaks in this region. One, to be called Centennial Peak, and the other to be designated Decennial Peak, will commemorate the 100- and 10-year anniversaries of The Ohio State University and the Institute of Polar Studies, respectively. An Institute field patch and a flag are being designed.

Future Plans

On July 1, 1969, Dr. C. Bull, the Director of the Institute since October 1965, became Chairman of the Department of Geology at The Ohio State University. The new Director is Dr. Emanuel D. Rudolph of the Academic Faculty of Organismic and Developmental Biology.

A new brochure has been prepared to identify the many opportunities for graduate research in polar studies with the Institute. This is being mailed to biology, geology, and selected other departments in universities in North America. It is hoped that this first major attempt to recruit graduate students for the Institute and academic departments at Ohio State will be successful. If so, it should result in a stronger Institute with more graduate students doing their own research, and also a more inter-disciplinary outlook.

APPENDIX A

Constitution for an

INSTITUTE OF POLAR STUDIES

at

THE OHIO STATE UNIVERSITY

ARTICLE 1. Intent

Section 1. Name — The name shall be the Institute of Polar Studies.

Section 2. Subject — Polar studies shall be considered to be the investigation of any natural or cultural phenomenon peculiar to the environment where ground is permanently frozen or where glaciers and permanent snows are nearby. In general, these are the areas where mean monthly temperature does not exceed 10°C for the warmest month.

Section 3. Purpose — The purposes shall be:

a. To plan, encourage, support, and direct significant scientific research in polar phenomena.

b. To bring together or develop interrelated polar investigations and teams of investigators.

c. To seek and to facilitate the training of research workers devoted to polar studies.

d. To make available to scientists and the public the fruits of significant polar studies.

Section 4. Organization — The Institute shall be governed and operated under the Vice President, Instruction and Research, with the sanction of the President and the Board of Trustees. It shall be conducted by:

a. A Director with proper assistance to oversee everyday operations.

b. An Administrative Board.

c. An interdepartmental Membership.

ARTICLE 2. Director

Section 1. Appointment — The Director shall be appointed for four years (or less) beginning 1 July, by the President and Board of Trustees, upon the recommendation of the Vice President, Instruction and Research, following a nomination by the Administrative Board.

Section 2. Duties — The Director shall establish policy and conduct the everyday business of the Institute:

a. Help select, approve, and hire research and office personnel.

b. Set and conduct business meetings of the Board and Membership.

c. Be acquainted with all Institute proposals, projects, seminars, and check all reports before release.

d. Direct those in charge of general correspondence, files, library, accounts, special laboratory facilities, shop, or special equipment.

e. Prepare the annual budget for approval by the Board.

Section 3. Absence — In case of protracted absence or disability, the Institute affairs will be conducted by an Acting Director appointed by the Administrative Board.

ARTICLE 3. Administrative Board

Section 1. Composition — The Board shall consist of five voting members and two nonvoting members, as follows:

a. Two persons elected by the Membership.

b. Two persons appointed by the Council on Research.

c. The Dean of the Graduate School.

d. The Director, who shall act as Executive Secretary, and the Vice President's Assistant for Research Development and Institutes, both of whom shall be without vote.

Section 2. Term — All elected and appointed Board members shall serve four years beginning 1 July. The terms of the two members under (a) and (b) above shall begin in alternate biennia. Replacements to fill out vacated terms shall be made by the respective appointing bodies.

Section 3. Meetings — The Board will meet at least once each year in the Spring Quarter, and as requested by a majority of the Board, or petition of any six Members, or the call of the Director.

ARTICLE 4. Membership

Section 1. Eligibility — Membership may include any member of the Ohio State University teaching faculty who supervises, advises regularly, consults, or is principal investigator of any polar research project, here or elsewhere, and any full-time principal investigator who possesses the Master's degree or equivalent. It may also include up to two representatives designated by department chairmen from any department contemplating participating in a polar program. New members shall be subject to confirmation by the Administrative Board.

Section 2. Meetings — The Members shall meet at least once a year in the early Spring after the Board meeting. Other meetings may be held at the request of a majority of the Board, or petition of any six Members, or the call of the Director. The Director shall act as chairman. Two-weeks notice shall be given for all meetings. Ten members of faculty status constitutes a quorum for action and each member has one vote.

Section 3. Duties — The Members carry out the everyday research of the Institute. At the annual meeting they shall consider the needed fields of polar research, the institution of training aids and courses, the adequacy of equipment and facilities, and make recommendations to the Board and Director for action. They shall nominate and elect one new Board member annually.

ARTICLE 5. Amendments

Section 1. This constitution may be amended by a two-thirds vote of the Membership in attendance at the next meeting not earlier than 30 days following the introduction and circulation of the amendment.

APPENDIX B

INSTITUTE OF POLAR STUDIES MOVIE SERIES

Winter 1961	Nanook of the North Islands of the Frozen Sea High Arctic
Summer 1961	Ninety Degrees South
Autumn 1961	Adélie Penguins of the Antarctic Life Among the Penguins Les Pingouins Antarctica: Biological Studies
Winter 1962	Life in the Arctic Story of the Polar Regions
Spring 1962	Antarctica Trans-Antarctic Crossing Rendezvous 90° South
Summer 1962	Nanook of the North
Autumn 1962	Seal Island Passage to the Pribilofs Hunters of the North Pole Arctic Hunters
Winter 1963	Seven Cities of Antarctica Secrets of the Ice
Spring 1963	A Year at the Russian Base--slide show by Dr. M. E. Pryor
Summer 1963	Nanook of the North
Autumn 1963	Antarctic Adventure
Winter 1964	In the Heart of the Arctic
Summer 1964	Above the Timberline How to Build an Igloo The Living Stone
Autumn 1964	The Story of Camp Century Face of the High Arctic Angotee

Winter 1965	Adélie Penguins of the Antarctic The Priceless Laboratory Pangnirtung
Spring 1965	Land of the Long Day Men Against the Ice
Summer 1965	Scott's Last Journey
Autumn 1965	Life in the High Arctic
Winter 1966	Annapurna
Spring 1966	Where Mountains Float Antarctic Biology
Summer 1966	The White Continent The German Greenland Expedition of A. Wegener, 1930-31 The Formation of Icebergs on the Coast of Greenland
Autumn 1966	The Polar Challenge--slide show by Dr. C. Bull An American at Mirny--color film by Gilbert Dewart
Winter 1966	Life Among the Penguins Bellingshausen Sea
Spring 1967	Adélie Penguin--slide show and film by Dr. R. L. Penney
Autumn 1967	Eskimo Art: old and new--slide show by Dr. E. Hall The Loons Necklace
Spring 1968	On the Ice Mountain Glaciers
Autumn 1968	Polar Expansion: North America and Russia Operation Sea Otter Transplant

APPENDIX C

FACULTY MEMBERS ATTRACTED TO THE OHIO STATE UNIVERSITY THROUGH THE MERSHON FUNDS AWARDED TO THE INSTITUTE

Colin B.B. Bull	Professor, Department of Geology
Paul A. Colinvaux	Associate Professor, Academic Faculty of Population and Environmental Biology
Derry D. Koob	Assistant Professor, Academic Faculty of Organismic and Developmental Biology *
John N. Rayner	Associate Professor, Department of Geography
Emanuel D. Rudolph	Associate Professor, Academic Faculty of Organismic and Developmental Biology
Fiorenzo C. Ugolini	Assistant Professor, Department of Agronomy *
Tien H. Wu	Professor, Department of Civil Engineering

* No longer at The Ohio State University

APPENDIX D

RECIPIENTS OF INSTITUTE OF POLAR STUDIES FELLOWSHIPS

Regular Fellowship: for graduate study during regular academic year

1961-62 (1) Richard F. Madole, Dept. of Geology
Quaternary geology of St. Vrain drainage basin, Boulder County, Colorado (Ph.D.; received June 1963)

1962-63 (1) Caspar Cronk, Dept. of Geology
Glaciological investigations on the margin of the Antarctic Ice Sheet at Wilkes Station (Ph.D.; received March 1968)

1963-64 (1) Peter Anderton, Dept. of Geology
Ice crystal structures related to the confluence of two arms of the Kaskawulsh Glacier, Yukon Territory, Canada (Ph.D.; received August 1967)

(2) Adolph H. Kryger, Dept. of Geography
Microclimate across the margin of the Sukkertoppen Ice Cap in Tasersiaq area, Greenland (M.S.; received June 1965)

(3) Gilbert Dewart, Dept. of Geology
Seismic investigation of ice properties and bedrock topography at the confluence of two glaciers, Kaskawulsh Glacier, Yukon Territory, Canada (Ph.D.; received August 1968)

1964-65 (1) Peter Anderton, Dept. of Geology (see above)

(2) Gerald Holdsworth, Dept. of Geology
An examination and analysis of the formation of transverse crevasses, Kaskawulsh Glacier, Yukon Territory, Canada (M.S.; received June 1965)

1965-66 (1) Peter Barrett, Dept. of Geology
The Post-Glacial Permian and Triassic Beacon rocks in the Beardmore Glacier area, Central Transantarctic Mountains, Antarctica (Ph.D.; received December 1968)

(2a) Edmund Schofield, Dept. of Botany (one quarter only)
Physiology of lichens in Antarctica
(Ph.D.; expected June 1970)

(2b) Wayne L. Hamilton, Dept. of Geology
Microparticles in polar snow and ice
(Ph.D.; received March 1969)

1966-67 (1) Peter Barrett, Dept. of Geology (see above)

(2) Ronald Laughlin, Dept. of Botany
Dating periglacial features in the Colorado Front Range through the use of vegetation and soil analyses
(Ph.D.; expected August 1969)

Summer Fellowship: to attend summer field camp at Kebnekajse, Sweden

1963 (1) Robert Wheeler, Dept. of Agronomy
Control of detrimental common ion effects in soils by means of chelates and partially acidulated rock phosphate (Ph.D.; received August 1965)

1964 (1) Frederick Miller, Dept. of Agronomy
Micromorphology and mineralogy of Canfield soil, northeastern Ohio (Ph.D.; received August 1965)

1965 (1) Carl R. Carnein, Dept. of Geology
Mass balance of the Meserve Glacier, Wright Valley, Antarctica (M.S.; received August 1967)

APPENDIX E

STAFF of INSTITUTE OF POLAR STUDIES

June 1969

Name	Department
Dr. Peter J. Barrett	IPS
* Mr. Robert E. Behling	IPS; Geology
Dr. Colin Bull	Dir., IPS; Geology
Dr. Parker E. Calkin	SUNY, Buffalo; Geology
Dr. Richard L. Cameron	University College
Dr. Paul A. Colinvaux	Pop & Env. Biol.
Dr. Gilbert Dewart	IPS
Dr. David H. Elliot	IPS; Geology
Dr. Kaye R. Everett	IPS; Agronomy
Dr. Gunter Faure	Geology
Dr. Lawrence C. Gerckens	City Planning
Dr. Sanjib K. Ghosh	Geodetic Science
Dr. Gareth E. Gilbert	Botany
Dr. Richard P. Goldthwait	Chairman, Geology
Dr. Ernest E. Good	Pop. & Env. Biol.
* Mr. John D. Gunner	IPS; Geology
Dr. Edwin S. Hall	Anthropology; IPS
Dr. Wayne L. Hamilton	IPS
* Mr. Richard Hill	IPS; Geology
* Mr. Gerald Holdsworth	IPS; Geology
Dr. Nicholas Holowaychuk	Agronomy
Mr. Rudolf Honkala	IPS
Dr. Terence J. Hughes	IPS
Dr. Lois Jones	IPS
Mr. H. Scott Kane	IPS; IBM
Dr. Jean-Roland Kläy	IPS
Dr. Roy M. Koerner	IPS

Name	Department
Dr. John F. Lindsay	IPS
Dr. Michael A. Little	Anthropology; IPS
Dr. Fritz Loewe	IPS
* Mr. Paul Mayewski	IPS; Geology
Dr. Garry McKenzie	Asst. to Dir., IPS
* Mr. Maurice McSaveney	IPS; Geology
** Miss Peggy Meechan	IPS
** Mr. Herbert Mehrling	IPS; Geology
Dr. John H. Mercer	IPS
* Mr. Peter Morgan	IPS; Geodetic Science
* Mr. Olav Orheim	IPS; Geology
Dr. Donald N. Peterson	IPS
Dr. James R. Rastorfer	IPS; Botany
Dr. John N. Rayner	Geography; IPS
** Mr. Robert Reed	Geology; IPS
Dr. Emanuel D. Rudolph	Botany; IPS
Mr. Arthur S. Rundle	IPS
* Mr. Edmund Schofield	IPS; Botany
Dr. James M. Schopf	USGS Coal Lab
Mr. John F. Splettstoesser	Asst. Dir., IPS
Dr. C. H. Summerson	Geology
Dr. Samuel B. Treves	Geology (Univ. of Nebraska)
Dr. E. Vowinckel	Meteorology (McGill Univ.)
* Mr. Ian Whillans	IPS; Geology
Dr. Sidney E. White	Geology
Dr. T. H. Wu	Civil Engineering
Dr. Steven B. Young	IPS; Botany

* - Graduate Student

** - Service

APPENDIX F

Advanced Degrees resulting from sponsorship by the Institute of Polar Studies, 1959-1969

Name	Title	Degree	Date	University, Dept.
Anderson, Vernon H.	Glaciological observations in Marie Byrd Land, Antarctica	M.S.	1959	Wyoming, Geology
Long, William E.	Geology of Mt. Glossopteris, Central Range of the Horlick Mountains, Antarctica	M.S.	1961	OSU, Geology
Robertson, Richard	Precambrian rocks of the Windmill Islands, Budd Coast, Antarctica	M.S.	1961	Wyoming, Geology
Blake, Jr., Weston	Geomorphology and glacial geology in Nordaustlandet, Spitsbergen	Ph.D.	1962	OSU, Geology
Taylor, Lawrence D.	Ice structures, Burroughs Glacier, southeast Alaska	Ph.D.	1962	OSU, Geology
Calkin, Parker E.	Geomorphology and glacial geology of the Victoria Valley system, southern Victoria Land, Antarctica	Ph.D.	1963	OSU, Geology
Cameron, Richard L.	Glaciological studies at Wilkes Station, Budd Coast, Antarctica	Ph.D.	1963	OSU, Geology
Dalrymple, Paul	A physical climatology of the Antarctic Plateau	Ph.D.	1963	Boston Univ., Geography
Everett, Kaye R.	Slope movement in contrasting environments	Ph.D.	1963	OSU, Geology
Madole, Richard F.	Quaternary geology of St. Vrain drainage basin, Boulder City, Colorado	Ph.D.	1963	OSU, Geology
Long, William E.	Stratigraphy of the Ohio Range, Horlick Mountains, Antarctica	Ph.D.	1964	OSU, Geology
McLelland, Douglas	Geology of the basement complex, Thorvald Nilsen Mountains, Antarctica	M.S.	1967	Nevada, Geology

Name	Title	Degree	Date	University, Dept.
Weissman, Simha	The use of photogrammetric methods to investigate surface movement of the Antarctic Ice Sheet	M.S.	1964	OSU, Geodetic Sci.
Welch, Roy	The form and origin of landforms produced during the wastage of Casement Glacier, Alaska	M.A.	1964	Oklahoma, Geography
Holdsworth, Gerald	An examination and analysis of the formation of transverse crevasses, Kaskawulsh Glacier, Yukon Territory, Canada	M.S.	1965	OSU, Geology
Kryger, Adolph H.	Microclimate across the margin of the Sukkertoppen Ice Cap in Tasersiaq area, Greenland	M.A.	1965	OSU, Geography
Vickers, William W.	A study of ice accumulation and tropospheric circulation in western Antarctica	Ph.D.	1965	McGill Univ., Geography
Brecher, Henry H.	Surface velocity measurements on the Kaskawulsh Glacier, Yukon Territory, Canada	M.S.	1966	OSU, Geodetic Sci.
Anderton, Peter W.	Ice crystal structures related to the confluence of two arms of the Kaskawulsh Glacier, Yukon Territory, Canada	Ph.D.	1967	OSU, Geology
Carnein, Carl R.	Mass balance of the Meserve Glacier, Wright Valley, Antarctica	M.S.	1967	OSU, Geology
Haselton, George M.	Glacial geology of Muir Inlet, southeastern Alaska	Ph.D.	1967	OSU, Geology
Minshew, Velon H., Jr.	Geology of Scott Glacier and Wisconsin Range areas, central Transantarctic Mountains, Antarctica	Ph.D.	1967	OSU, Geology
Barrett, Peter J.	The Post-Glacial Permian and Triassic Beacon rocks in the Beardmore Glacier area, central Transantarctic Mountains, Antarctica	Ph.D.	1968	OSU, Geology
Boellsdorf, John	Geology of Tasersiaq Peninsula, southwest Greenland	M.Sc.	1968	Nebraska, Geology

Name	Title	Degree	Date	University, Dept.
Cronk, Caspar	Glaciological investigations on the margin of the Antarctic Ice Sheet at Wilkes Station	Ph.D.	1968	OSU, Geology
Dewart, Gilbert	Seismic investigation of ice properties and bedrock topography at the confluence of two glaciers, Kaskawulsh Glacier, Yukon Territory, Canada	Ph.D.	1968	OSU, Geology
Lindsay, John F.	Stratigraphy and sedimentation of the lower Beacon rocks of the Queen Alexandra, Queen Elizabeth, and Holland Ranges, Antarctica, with emphasis on the Paleozoic glaciation	Ph.D.	1968	OSU, Geology
Marangunić, Čedomir	Effects of a landslide on Sherman Glacier, Alaska	Ph.D.	1968	OSU, Geology
McKenzie, Garry D.	Glacial history of Adams Inlet, southeastern Alaska	Ph.D.	1968	OSU, Geology
Moravek, John R.	Some geographical aspects of ice-dammed, self-draining lakes: A case study of Casement Lake, Glacier Bay, Alaska	M.S.	1968	Tennessee, Geography
Hamilton, Wayne L.	Microparticle deposition on polar ice sheets	Ph.D.	1969	OSU, Geology
Jones, Lois M.	The application of strontium isotopes and natural tracers: origin of the salts in the lakes and soils of southern Victoria Land, Antarctica	Ph.D.	1969	OSU, Geology
Kane, H. Scott	A neutron probe for the determination of snow density, and its use in Antarctica	M.S.	1969	OSU, Physics
Leister, Geoffrey L.	Primary productivity and associated physical, chemical, and biological characteristics of Lake Bonney: a perennially ice-covered lake in Antarctica	M.S.	1969	OSU, Botany

Name	Title	Degree	Date	University, Dept.
Pawlowicz, Edmund F.	An isostatic study of northern and central Greenland based on gravity values and airborne radar ice-thickness measurements	Ph.D.	1969	OSU, Geology
Peterson, Donald N.	Glaciological investigations on the Casement Glacier, southeast Alaska	Ph.D.	1969	OSU, Geology

Several other people (7), who held Institute of Polar Studies Fellowships or who were Principal Investigators on Institute projects, have received Ph.D. degrees; however, their dissertation research topic was not directly supported by the Institute.

INSTITUTE OF POLAR STUDIES RESEARCH PROJECTS

April 1958* - January 1969

OSURF No.	Sponsor	Principal Investigator and Abbreviated Title	Support	Starting Date
825	NAS	R. P. Goldthwait: Antarctic Data Reduction	$116,571	Apr 1958
932	NSF	W. Vickers: Analysis of IGY Data	10,350	Jun 1959
943	NSF	A. Brandenberger: Glacier Mapping, Western U.S.	2,230	Jul 1960
968	NSF	R. L. Cameron: Antarctic Glac. Data Reduction	45,815	Jan 1960
971	NSF	P. Dalrymple: Micrometeorology at South Pole	37,973	Jul 1959
1037	NSF	W. Blake: Glacial Geology, Spitsbergen	6,655	Nov 1959
1070	NSF	K. R. Everett: Slope Movement in Ohio	3,500	Jul 1960
1122	NSF	L. D. Taylor: Burroughs Glacier, Alaska	12,000	Jul 1960
1128	NSF	M. Giovinetto & H. Shimizu: Antarctic Firn Studies	53,972	May 1960
1132	NSF	W. E. Long: Geology of Horlick Mtns., Antarctica	69,479	Aug 1960
1192	NSF	R. L. Cameron & J. Hollin: Antarctic Glac.Data Reduc.	24,378	Oct 1960
1197	NSF	K. Kojima: Analytical Study of Snow Densification	14,240	Dec 1960
1226	NSF	R. P. Goldthwait: Crillon Glacier, Alaska	15,000	Jun 1961
1227	NSF	A. Brandenberger: Photogrammetrical Mapping of Glac.	2,230	Jan 1962
1245	NSF	R. P. Goldthwait: Support of Institute	33,887	Mar 1961
1248	AEC	K. R. Everett: Slope Movement in Alaska	13,081	Jun 1961
1252	NSF	P. E. Calkin: Glacial Geology, South Victoria Land	23,760	Mar 1961
1258	NSF	W. E. Long: Geology of Ohio Range, Antarctica	72,300	Aug 1961
1278	AGS	A. Davey: Analysis of Glacier Maps	7,500	Sep 1961
1291	NSF	W. Boyd: Ecology of Antarctic Bacteria	13,566	Oct 1961
1296	NSF	H. Shimizu: Traverse Glaciology, Antarctica	30,042	Oct 1961
1345	NSF	M. Pryor: Ecology of Soil Arthropods, Antarctica	44,787	Jul 1961
1361	NSF	E. D. Rudolph: Antarctic Lichens	16,676	Aug 1961
1362	NSF	P. Dalrymple: Antarctic Micrometeorology Studies	7,902	Aug 1961
1363	NSF	K. Kojima: Snow Densification	14,905	Aug 1961
1374	NSF	K. R. Everett: Slope Movement in Alaska	4,440	Oct 1961
1389	NSF	S. B. Treves: Petrology, Marguerite Bay, Antarctica	5,878	Dec 1961
1391	NSF	A. Brandenberger: Glacier Maps	4,828	Nov 1961
1396	NSF	C. Bull: Analysis of Antarctic Gravity Data	18,500	Nov 1961
1412	NSF	R. P. Goldthwait: Support of Institute	28,200	Jan 1962
1417	NSF	A. Mirsky & S.B. Treves: Petrography of Mt.Gran, Ant.	3,250	Mar 1962
1428	NSF	G. Doumani: Geology of Mt. Weaver, Antarctica	50,800	May 1962
1431	AEC	K. R. Everett: Slope Movement in Alaska	11,656	Mar 1962
1444	NSF	R.M.Koerner & R.Forrest: Surface Ice Movements, Ant.	38,640	Apr 1962
1445	NSF	L. D. Taylor: Glaciology of South Pole Traverse	20,500	Apr 1962
1446	NSF	W. Boyd: Ecology of Antarctic Bacteria	15,200	May 1962
1466	NSF	E. D. Rudolph: Antarctic Lichens	21,400	Jun 1962
1469	NSF	R.J.Price: Ice-Contact Deposits, Casement Gl., Alaska	10,800	May 1962
1490	QMR&E	C. Bull: Glac. of Sukkertoppen Ice Cap, Greenland	5,000	Jul 1962
1564	NSF	R. P. Goldthwait: Support of Institute	25,000	Jan 1963

* Includes some projects active before official founding of the Institute, Feb. 1960.

OSURF No	Sponsor	Principal Investigator and Abbreviated Title	Support	Starting Date
1605	NSF	J. H. Mercer: Glacial Geology, Patagonia	$ 16,900	Jan 1963
1615	NSF	W. E. Long: Geology of Queen Maud Range, Antarctica	32,200	Apr 1963
1639	NSF	G. M. Haselton: Glacial Geology, Muir Inlet, Alaska	14,200	Apr 1963
1649	NSF	H. Borns: Glacial Geology, Yukon Territory	6,500	Apr 1963
1671	NSF	E. D. Rudolph: Antarctic Lichens	22,600	May 1963
1672	NSF	R. L. Cameron: Byrd Station Glaciology	28,200	Jun 1963
1701	AINA-ONR	R. P. Goldthwait: Physical Study, SW Greenland	8,000	Jul 1963
1727	NSF	R. L. Cameron: Antarctic Glaciology Folio	6,300	Jul 1963
1768	NSF	R. P. Goldthwait: Support of Institute	32,000	Jan 1964
1810	NSF	D. D. Koob: Ecology of Antarctic Algae	39,400	Apr 1964
1813	NSF	G. M. Haselton: Glacial Geology, Muir Inlet, Alaska	14,700	Mar 1964
1814	NSF	S. B. Treves: Geology, Tasersiaq Area, Greenland	9,900	Apr 1964
1821	NSF	J. Gliozzi: Microparticles in Antarctic Ice	18,700	Mar 1964
1830	QMR&E	K. R. Everett & F. Loewe: Pedol. & Met.,SW Greenland	24,424	Apr 1964
1838	NSF	R. L. Cameron: QMLT I Traverse Glaciology, Ant.	20,000	May 1964
1839	NSF	S. B. Treves: Geology, Ross Island, Antarctica	28,200	May 1964
1840	NSF	G. Faure: Geology, Wisconsin Range, Antarctica	61,159	May 1964
1885	NSF	A. Rundle: Glaciology, Anvers Island, Antarctica	123,100	Jul 1964
1957	NSF	R. P. Goldthwait: Support of Institute	8,080	Mar 1965
1970	U.S. Army	S. Weissman: Ice Cliff Study, Red Rock, Greenland	13,854	Apr 1965
1984	NSF	R. Gunn: Remeasurement of Surface Ice Movement, Ant.	24,700	Apr 1965
1988	NSF	R.P.Goldthwait: Ecological Study, Muir Inlet, Alaska	27,800	Jun 1965
2005	NSF	C.Marangunić: Earthquake Effects,Sherman Gl., Alaska	26,200	Jun 1965
2008	NSF	G. Holdsworth: Glaciology of a Cold Glacier, Ant.	35,300	Jul 1965
2017	AEC	D. N. Peterson: Casement Glacier, Alaska	88,308	Jun 1965
2017A	AEC	D. N. Peterson: Casement Glacier, Alaska	12,926	May 1968
2023	NSF	S. Kane: Traverse Glaciology, Antarctica (QMLT II)	28,400	Jul 1965
2080	NSF	C. Bull: Support of Institute	18,600	Oct 1965
2149	NSF	J. H. Mercer: Glacial Geology, Patagonia	18,800	Jan 1966
2168	NSF	E. Vowinckel: Clouds in Arctic Regions	4,100	Feb 1966
2200	NSF	G. McKenzie: Glacial Geology, Adams Inlet, Alaska	30,000	Apr 1966
2201	NSF	C. Marangunić: Cont. of Sherman Glacier Studies	20,000	Apr 1966
2238	NSF	E.D. Rudolph & D. Koob: Botanical Survey, Marie Byrd Land Coast, Antarctica	19,500	Jun 1966
2263	NSF	G. Holdsworth: Cont , Cold Gl. Studies, Antarctica	33,700	Jun 1966
2264	NSF	G. Dewart: Gravity-Magnetic Study, Anvers Isl., Ant.	8,500	Jun 1966
2265	NSF	P.J.Barrett: Geology, Beardmore Glacier Area, Ant.	41,900	Jun 1966
2262	NSF	R.M. Koerner: Plateau Sta. Glaciology, Antarctica	60,200	Jun 1966
2340	NSF	G.Faure & R.Montigny: Geochem. Study.,Wright Val.,Ant.	4,400	Oct 1966
2352	NSF	R. Honkala: Met. and Glac., Anvers Isl., Antarctica	58,300	Oct 1966
2354	NSF	V. H. Minshew: Sed. Petrology, Transantarctic Mtns.	7,900	Nov 1966
2372	NSF	E. S. Hall: Archaeology of NW Alaska	37,100	Apr 1967
2395	NSF	E. D. Rudolph: Antarctic Lichens and Algae	38,100	Apr 1967
2406	NSF	J. H. Mercer: Glacier Variations, S. Patagonia	21,900	Jun 1967
2411	NSF	G. Faure: Geochronology of Transantarctic Mtns.	24,100	Apr 1967
2455	NSF	C. Marangunić: Glac. of Sherman Glacier, Alaska	20,100	May 1967

OSURF No	Sponsor	Principal Investigator and Abbreviated Title	Support	Starting Date
2472	NSF	D. Koob & E. Rudolph: Byrd Land Coast Survey, Ant.	$ 21,000	Jun 1967
2488	NSF	R. Koerner: Traverse Glac., Antarctica (QMLT III)	57,500	Jun 1967
2494	NSF	P. Barrett: Geology of Transantarctic Mtns., Ant.	37,000	Jul 1967
2498	NSF	W. Hamilton: Air Sampling, Antarctica	9,300	Jul 1967
2500	NSF	G. Dewart: Geophysics-Glaciology, Byrd Land, Ant.	42,500	Jul 1967
2503	NSF	K. Everett: Pedology, Wright Valley, Antarctica	20,600	Jul 1967
2508	Battelle	K. Everett: Geomorphology & Pedology, Amchitka, Al.	18,842	Aug 1967
2508A	Battelle	K. Everett: Geomorphology & Pedology, Amchitka, Al.	10,020	Jul 1968
2509	Battelle	D. Koob: Freshwater Ecology, Amchitka, Alaska	23,177	Aug 1967
2530	NSF	J. Rastorfer: Physiology of Mosses, Antarctica	53,000	Aug 1967
2574	NSF	C. Marangunić: Support	2,900	Sep 1967
2620	NSF	G. Holdsworth: Structural Glac., Meserve Gl., Ant.	40,100	May 1968
2631	NSF	R. Honkala: Data Reduc.,Glac.-Met., Anvers Isl., Ant.	20,300	Apr 1968
2632	NSF	P.Barrett & J.Lindsay: Geology, Beardmore, Ant.	16,900	Jun 1968
552	NSF	K. Everett: Pedology, Trinity Peninsula, Ant.	17,700	Jun 1968
2667	NSF	D. Elliot: Jurassic rocks, data, Beardmore, Ant.	19,200	Jun 1968
2669	NSF	E.Rudolph & G.Gilbert: Bot. Surv.,Byrd Land, Ant.	17,900	Jun 1968
2707	NSF	C. Shultz: Petrology, Deception Island, Antarctica	27,500	Sep 1968
2714	NSF	R.Behling & P.Calkin: Weath.& Glac.Hist.,Wright Val.	30,700	Sep 1968
2725	NSF	J.Klåy & O.Orheim: Volc.Erup.--Glaciers,Decep.Is.,Ant.	20,200	Oct 1968
		SUB-TOTAL	$2,693,461	
	AINA	S. Chaudhuri: Sedimentation Studies in Yukon	$ 2,300	Jul 1962
	AINA	C. Bull: Glaciology, Yukon Territory	7,100	Jun 1964
	AINA	G. Dewart: Kaskawulsh Glaciology, Yukon Territory	5,000	Jun 1965
		SUB-TOTAL	$ 14,400	
		108 Projects TOTAL	$2,707,861	